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10/763,027	01/21/2004	Wolfgang Maus	E-80044	9168
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EXAMINER				
MERKLING, MATTHEW J				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,027

Applicant(s)

MAUS, WOLFGANG

Examiner

MATTHEW J. MERKLING

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-27 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date 7/14/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. In claim 1, Applicant added the limitation “a thermal expansion behavior being displaced in terms of time or in relation to temperature”. The meaning of this claim language is unclear. It is unclear how a thermal expansion behavior can be displaced in terms of time.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota et al. (US 5,486,338) in view of Cheung (US 4,193,793) and Maus et al. (US 5,916,530) and evidenced by Cyron et al. (US 4,795,615).

Regarding claims 1, 9, 11, 16, and 25-27, Ota discloses a honeycomb body comprising:

a housing (2);

a matrix (corrugated foils (8) and flat sheets (7), inside housing) having a diameter and connected to said housing (see Figs. 1, 2, 3, 5, 6); and

at least one contraction limiter (5, 9a, 9b, 10, 11) causing an outwardly directed tensile stress in at least one part of said matrix (see Figs. 1, 2, 3, 5, 6). Furthermore, Ota teaches that the contraction limiter (5) is thinner than the housing (2) and thicker than the foil used for the matrix (3). In other words, the metallic material will begin to deform before the contraction limiter due to the thinner metallic foil, and the casing will deform after the contraction limiter due to the thicker material of the casing.

Ota teaches a contraction limiter/cushion, housing and matrix/honeycomb made of stainless steel (col. 3 lines 23-24), but does not teach said contraction limiter having a specific heat capacity between a specific heat capacity of said housing and matrix. In other words, Ota teaches a structure where the matrix, the contraction limiter and the housing all contain the same specific heat capacity.

Cheung also discloses a honeycomb body that is utilized for purification of exhaust gases (see abstract).

Cheung teaches utilizing a low specific heat capacity catalyst carrier (col. 13 lines 58-62) in order to reduce the startup time needed for the purification catalyst to become active (col. 13 lines 16-20).

As such, decreasing the specific heat capacity of the catalyst substrate of Ota in relation to the other support structures of a catalytic converter to a specific heat capacity lower than the specific heat capacity of the stainless steel contraction limiter, as taught by

Cheung, would have been obvious to one of ordinary skill in the art at the time of the invention in order to reduce the heat-up time of the catalyst substrate in order for the purification reaction to become active. In other words, forming the matrix of Ota out of a material which has a lower specific heat capacity than stainless steel (which the contraction limiter is) would have been obvious to one of ordinary skill in the art at the time of the invention in order to expedite the startup time of the catalyst contained on the matrix.

Furthermore, Ota, as modified by Cheung, teaches a stainless steel contraction limiter and a matrix made of a material which has a lower specific heat capacity than stainless steel (as discussed above), but does not explicitly disclose the housing having specific heat capacity greater than the contraction limiter.

Maus also discloses a honeycomb body comprising a casing/housing (1), a contraction limiter (11b, see Fig. 3) and a matrix (2).

Maus teaches that the housing/casing is constructed of a material that has a high heat capacity relative to the contraction limiter or the matrix in order to provide a storage point for heat so after the catalytic converter is shutdown, the cool-down process is slowed due to the dissipation of heat from the casing (1), through the contraction limiter (11) and to the matrix (2) (see abstract, col. 3 lines 17-35, 49-60).

As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to construct the casing of modified Ota, out of a material that has a higher specific heat capacity than the stainless steel contraction limiter of Ota, as taught by Maus in order to provide a storage point for heat so after the catalytic converter is

shutdown, the cool-down process is slowed due to the dissipation of heat from the casing, through the contraction limiter and to the matrix

Regarding limitations recited in claim 1 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP §2114 and 2115. Further, process limitations do not have a patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states “Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim.

Regarding claim 2, Ota, as discussed in claim 1 above, further discloses said matrix (8,7) is connected to said housing (3) by said contraction limiter (cushion member (5) and joints (9a)).

Regarding claim 3, Ota, as discussed in claim 1 above, further discloses said contraction limiter (11) has a first end region (11b) connected to said matrix (see Fig. 11) resulting in a connecting region, and a second end region (11a) connected to said housing (2, see Fig. 11) resulting in a fastening region).

Regarding claim 4, Ota, as discussed in claim 1 above, further discloses said contraction limiter (11) and said matrix (3) have a common connecting region (11b, see Fig. 11); and

said matrix (3) has walls (7) connected to one another by joining connections (corrugated foil (8)), the tensile stress being applied through said common connecting region.

Regarding claim 5, where the claimed and prior art product(s) are identical or substantially identical, or are produced by identical or substantially identical process(es) the burden of proof is on applicant to establish that the prior art product(s) do not necessarily or inherently possess the characteristics of the instantly claimed product(s), see *In re Best*, 195 USPQ 430.

Regarding claim 7, Ota, as discussed in claim 1 above, further discloses said matrix and said housing define an annular gap (see Fig. 1) between them and surrounding said matrix (see Fig. 1), and said contraction limiter seals said annular gap surrounding said matrix (5 see Fig. 1).

Regarding claim 8, Ota, as discussed in claim 1 above, further discloses:
said matrix (3) has a circumference (see Fig. 2); and
said contraction limiter (5, 6 in Fig. 1) is one of a plurality of contraction limiters (see Fig. 10) disposed axially one behind another (see Fig. 1), with an offset with respect to one another in a direction of said circumference of said matrix (see Fig. 11).

Regarding claim 10, Ota, as discussed in claim 1 above, further discloses said matrix is thermally insulated with respect to said housing (via gap between the two structures, see Fig. 2).

Regarding claims 12 and 20, Ota, as discussed in claim 1 above, further discloses said matrix (3) has walls formed of at least partially structured sheet-metal foils (metal

honeycomb, see abstract) stacked and/or coiled forming channels through which a gas can flow (honeycomb, see Fig. 3).

Regarding claims 6 and 21-23 Ota, as discussed in claim 1 above, further discloses said contraction limiter (cushion sections 11) and said matrix (3) have a common connecting region (11b), said common connecting region is disposed close to an end side of said matrix (Ota discloses said cushion sections and joining sections are provided over the entire axial length i.e. up to the edge of said matrix, as pictured in Figs. 7 and 8, see col. 5 lines 40-44).

Regarding claim 13, Ota, as discussed in claim 12 above, further discloses said matrix (3) is at least partially surrounded by an outer structured foil (foil (7) see Fig. 2).

Regarding claim 14, Ota, as discussed in claim 12 above, further discloses said sheet-metal foils have a thickness of less than 0.06 mm (.05mm, col. 5 line 50-52).

Regarding claims 17 and 24, Ota, as discussed in claim 1 above, further discloses said contraction limiter (10) has means for preventing crack propagation (see corrugated limiters in Fig. 3 which will expand without cracking).

Regarding claims 15, 18 and 19, while Ota, as set forth in claim 12 above doesn't teach the thickness of the sheet metal of the honeycomb or the density of the cells in the honeycomb it was well known in the art at the time of the invention that these variables have a direct relationship to the performance of the honeycomb (for example, more cells, thinner walls yields more surface area for catalyst, as implied by Cyron, col. 6 lines 42-58). As such, these dimensions are not considered to confer patentability to the claim. These variables would have been considered a result effective variable by one having

ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed size of the sheet metal and density of the cells cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the size and density of the cells to obtain the desired performance (In re Boesch, 617 F. 2d. 272,205 USPQ 215 (CCPA 1980)). Since it has been held that where general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (In re Aller, 105 USPQ 223).

Response to Arguments

6. Applicant's arguments filed 10/9/08 have been fully considered but they are not persuasive.

Throughout the arguments, Applicants make reference to a "barreling effect". In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., barreling effect and the difference in material of the casing, contraction limiter and matrix (see bottom of page 11, top of page 12 of response) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, it is the examiner's position that the thinner foils or metals used in Ota for the matrix will deform faster than those of the thicker contraction limiter and the thicker casing.

Regarding the arguments on page 16 that repeat the previously presented arguments, the examiners previous response to these arguments still stand.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. MERKLING whose telephone number is (571)272-9813. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. J. M./
Examiner, Art Unit 1795

/Alexa D. Neckel/
Supervisory Patent Examiner, Art Unit 1795